Significant Analysis
For chapter 246-260 WAC - Water Recreation Facilities
March 2004

Briefly describe the proposed rule.

Chapter 246-260 WAC, Water Recreation Facilities, governs design, construction and operation of water recreation facilities regulated in Washington State. It applies to swimming pools, spas, wading pools, spray pools and public bathing beaches. The rule was last revised in 1992. This revision is based on the review of the chapter required by Executive Order 97-02, Regulatory Improvement, input from stakeholders and local health jurisdictions. It includes updated requirements based on new public health data, incorporates industry requested changes for new types of water features not currently addressed by the chapter, and streamlines and consolidates many duplicative sections of the regulations.

The regulations for water recreation facilities covered in chapter 246-260 WAC are to ensure a healthy and safe environment for the users of more than 4000 regulated pool facilities in Washington State. These rules are administered jointly by the Department of Health (DOH) and local health jurisdictions.

Water recreation facilities (WRF) pose a risk to public health from both injury and illness. There are 145,00 injuries each year in the U.S. that are sever enough to require emergency room services. The most common types of injuries associated with pools include falling on decks, walkways, ladders, and diving boards; striking the pool bottom or sides; and hitting protruding objects. In Washington State drownings are a leading cause of trauma death in the state. Drowning is the second leading cause of trauma death in children ages 1-4 in Washington State, exceeded only by motor vehicle injuries. In addition, diving injuries are a major severe injury problem associated with water recreation. There are also rare but devastating types of injuries that can occur when a person becomes entrapped from suction on main drains or by other mechanical devices. .

In addition to injuries, improper disinfection at water recreation facilities can lead to several types of illness. A myriad of disease-producing organisms grow very well in pool environments when disinfection levels drop too low. Common types of illnesses associated with pools include rashes and ear infections. An emerging issue causing gastrointestinal illness is Cryptosporidium. Legionella is a concern with the many new types of water features that are throwing water vapors and mists into the air. Ensuring provisions for maintaining proper water quality, including properly designed equipment, adequate maintenance and operation of the equipment is vital for protecting the public.

There are methods available to reduce the incidence of these problems in pool facilities through improved design, operation, and some equipment changes. This rule proposal attempts to incorporate the most recent information available on these methods in order

to improve public health and safety while maintaining flexibility and making the chapter easier to use and understand.

Is a Significant Analysis required for this rule?

A significant analysis is required for certain sections of this rule. However, DOH has determined that no significant analysis is required for the following sections of the rule: -001, Purpose and Authority; -010, Definitions; -101, Operating Permit; -121, Monitoring, Reporting and Record Keeping; -151, Restrictions on Animals; -181, Surveillance; -191, Technical Advisory Committee; and –221, Hearings. The changes made to these sections are general housekeeping type changes with no significant modifications to the existing requirements and have no substantive impact to those who must comply with the rule.

There are no proposed changes to the following sections and therefore they do not appear in the proposal at all: -180, Bathing Beaches; -998, Severability; -990, Fees.

Three sections are proposed to be repealed and are not rewritten and replaced. The Department has determined that these sections do not require a significant analysis because they are either already specifically addressed in statute, or incorporated into other areas of the rules. These sections are: -020, General Administration (in statute); -200, Water Recreation Industry Requirements (in statute); and –240, Substitution (covered in other areas of the rules.)

The remainder of this document concerns the sections of the rule that require a significant analysis.

A. Clearly state in detail the general goals and specific objectives of the statute that the rule implements.

The legislative findings of chapter 70.90 RCW state the general goals for Chapter 246-260 WAC: "The legislature finds that water recreation facilities are an important source of recreation for the citizens of this state. To promote the public health, safety and welfare, the legislature finds it necessary to continue to regulate these facilities"

More specifically, this chapter directs the State Board of Health (SBOH) to adopt rules "*…governing the safety, sanitation, and water quality for water recreation facilities. The rules shall include but not be limited to requirements for design, operation, injury and illness reporting, biological and chemical contamination standards, water quality monitoring, inspection, permit application and issuance, and enforcement procedures."* Chapter 246-260 WAC, Water Recreation Facilities, adopted by the SBOH, contains all these elements in order to implement this statute and meet these goals.

B. Determine that the rule is needed to achieve these goals and objectives, and analyze alternatives to rulemaking and the consequences of not adopting the rule.

In order to fully implement chapter 70.90 RCW it is necessary for the SBOH to adopt rules to specify requirements for design, construction, and operation of swimming pools and other water recreation facilities. The rules that are currently in place have not been revised since 1992. Since this time, better information about protecting public health has been developed and there have been a number of advances in the design and operation of pools and other water recreational facilities. The consequence of continuing to use the current rules is that the latest technology and information will not be used to address public health concerns at these facilities. Incorporating these changes will allow the use of new technology, which may reduce costs and improve safety of facilities, along with being better able to address public health concerns.

C. Determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented.

Operation of Water Recreation Facilities—Required Personnel (WAC 246-260-131(5)(a)(iv))

The following rule change applies to all water recreation pool facilities. (does not include bathing beaches)

1. Operation of water recreation facilities – Required personnel (WAC 246-260-131(5)(a)(iv)).

The current rule imposes lifeguard requirements based in part on the size of the pool: all general use facilities greater than 1500 square feet must provide lifeguards, while pools less than 1500 square feet are required to provide lifeguards only for organized programs such as swimming lessons.

The proposed rule change will require all facilities to have lifeguards when used by bathers under 16. The pool size requirement is eliminated.

This rule change will affect two types of facilities. First, it will eliminate the lifeguard requirement for facilities with pools larger than 1500 square feet, such as large athletic club and municipal pools that are not used by children under the age of 16. This change has the potential to lower costs for such facilities without significantly reducing public health protections. In order to be conservative, this analysis will ignore these potential cost reductions.

The other affected facilities, which are the focus of this analysis, are facilities with pools smaller than 1500 square feet, such as pools at private athletic clubs. These facilities will

now need to provide lifeguards any time the pool is used by children under the age of 16. (Previously, they needed to do so only during organized activities such as swimming lessons or exercise classes.)

Based on the information presented below, the department believes the qualitative and quantitative benefits from the prevention of drownings and near drownings outweigh the costs associated with additional lifeguards.

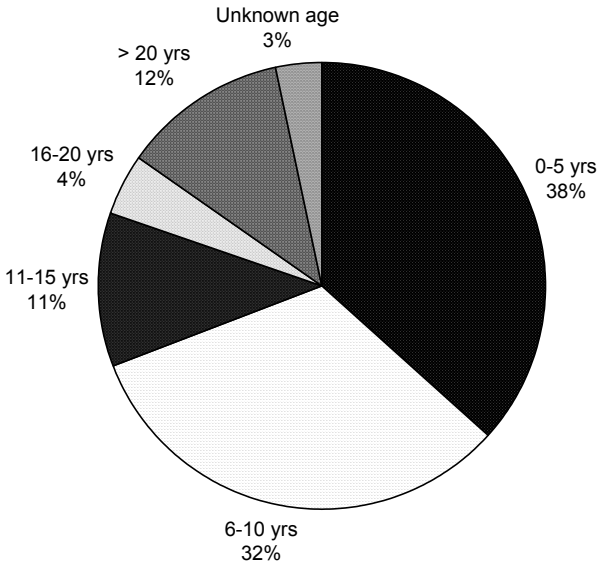
Benefits of the Rule Change

The risk of drowning or near drowning (submersion) is clearly associated with the age of the user: of the 117 submersions reported since 1991, over 80% have involved children under 16 years of age. (See figure.) Requiring lifeguards at pools used by children under 16 will reduce the number of drownings and submersions in regulated facilities.

According to the Children's Safety Network[1], an average of 17.8 children aged 1-14 drown in Washington State each year. DOH estimates, based on Consumer Product Safety Commission information, that one-quarter of these deaths (an average of 4.4) occur in regulated facilities that will be affected by the proposed rule change. Using the EPA's $6 million value of a statistical life (VSL), avoiding these deaths would generate benefits of $27 million each year. There are also significant benefits associated with reducing the incidence of near-drownings. (As discussed below, these benefits have not been quantified.)

[1] http://www.edarc.org/pubs/statetrends1/statemenu/wa.htm

Submersions reported at regulated facilities 1991-2002



Costs of the Rule Change

As noted earlier, some facilities will have an opportunity to reduce costs as a result of this rule change: facilities with pools larger than 1500 square feet will no longer be required to provide lifeguards if there are no children under 16 present. In order to generate a conservative estimate of costs, however, we do not attempt to determine the potential cost savings for these facilities.

The rule change will also increase costs for facilities smaller than 1500 square feet that will need to provide lifeguards when children under 16 are present. DOH estimates that there are 85 such facilities in the state. Of these, almost half currently use lifeguards, and therefore will not bear additional costs as a result of the proposed rule. For the remaining 44 facilities that do not currently use lifeguards, DOH estimates annual per-facility lifeguarding costs between $30,000 and $50,000. This generates total annual costs between $1.3 million and $2.2 million. (The accompanying table displays the relevant data for the high-end estimate.)

County	Private clubs under 1500 square feet	Private clubs under 1500 square feet not using lifeguards; estimated cost: $50,000	Total cost
King	47	30	$1,500,000
Pierce	1	1	$50,000
Clark	2	0	$0
Spokane	7	4	$200,000
Snohomish	8	4	$200,000
Benton/Franklin	10	5	$250,000
Other	10	5	$250,000
Total	85	49	$2,450,000

The cost estimate for lifeguarding came from informal surveys as well as DOH estimates. With regard to the former, one facility indicated that the annual cost would be approximately $50,000; a much larger municipal facility in Sequim that currently uses approximately a dozen part-time lifeguards for two pools, a spa pool, and a water slide estimates a total annual lifeguarding bill of $70,000.

The DOH estimates of lifeguarding cost come from a scenario featuring a private club with a swimming pool less than 1500 square feet that currently does not employ any lifeguards. We make the following assumptions: (1) the pool is open 365 days a year; (2) for 38 weeks between September and May, lifeguards are only needed outside of school hours, i.e., for 3 hours/day on weekdays and 8 hours/day on weekends, for a total of 31 hours per week; (3) for 14 weeks between June and August, lifeguards are needed for a total of 80 hours per week; and (4) the salary for lifeguards is $9 per hour, with benefits, workers' compensation, and other expenses doubling employer costs to $18 per hour. Given these assumptions, the pool would need to employ 2,300 hours of lifeguarding services each year at a total cost of $41,400.

Conclusion

The costs are conservatively estimated to be no more than $2.5 million per year. Using the EPA figure of $6 million for the value of a statistical life (VSL), it follows that a sufficient condition for passing a cost-benefit test is for the proposed rule to save an average of one life every two to three years. Since the lifeguarding rule is likely to accomplish this, it follows that the benefits of the proposed change exceed the costs.

The department feels that this analysis errs on the side of caution with both costs and benefits. On the cost side, for example, the *cost savings* that will accrue to some facilities are not included. On the benefits side, the benefits of reducing near-drownings are not included.

In reviewing data on submersion incidents that has been sent to DOH on submersion incidents, there are many lifeguard rescues that have prevented drownings. In 2002, there were two saves of teenage swim team members swimming long distance underwater rescued by lifeguards within seconds of them becoming motionless. Both cases were hospitalized and both had successful recoveries. In 2001, there were three rescues of children at lifeguarded facilities with two hospitalized with complete recovery and one simply treated at the scene. In the same year a small child at an unguarded private club drowned. The child's mother was in the pool, but at the opposite end.

General Design, Construction, and Equipment for All WRF Pool Facilities (WAC 246-260-031(4) and (5))

The following rule change applies to all water recreation pool facilities. (does not include bathing beaches)

2. Barriers (formerly WAC 246-260-090(4), 246-260-110(4), 246-260-130(4), and 246-260-050(3), now WAC 246-260-031(4) and (5)).

Fences, gate latches, and other barriers are a major protective element that reduces the risk of unattended children entering the pool facilities. Some of the barriers that are currently allowed inadequately prevent children from accessing pools. The following analysis describes the rule change, its benefits, and its costs.

Description of the Rule Change

The barrier requirements in the current rule were determined by the date the facility was built.

- Facilities that were built before 1990 were grandfathered (until such time that they modified the barrier) with requirements of:
  - barriers at least 48 inches in height;
  - openings of no more than 6 inches; and
  - a self-closing, self-latching door.
- Facilities that were built after 1990 (or modified their barriers after 1990) are required to have:
  - barriers at least 60 inches in height;
  - openings of no more than 4 inches;
  - certain requirements regarding horizontal and vertical members, e.g., in a chain link fence; and
  - a self-closing, self-latching door at least 54 inches from the ground.

The new rule requires *all* facilities to meet the following requirements by June 1, 2008:

- barriers at least 60 inches in height;
- openings of no more than 4 inches;
- the same requirements as above regarding horizontal and vertical members, e.g., in a chain link fence; and

- a self-closing, self-latching door that either (1) has an 18-inch radius of solid material around the latch or (2) is at least 60 inches from the ground.

Benefits of the Rule Change

Improving barrier protection will reduce submersions and drownings by reducing the likelihood that unattended children will gain access to pool facilities. Because the previous section provided details on incidence and impact, here we simply add information specifically related to barriers.

An 18-inch radius prevents smaller children from reaching through the gate or fence and opening the door from the inside. Raising the latch height will prevent access to the pool area by small children. When the 54-inch height was chosen, it was a compromise worked with building codes for ADA access. A year after the code was passed; the ADA wanted the latch height even lower (less than 48 inches). Raising the latch height to 60 inches will protect 95% of the children age 5.5- 6.5 and under versus 54 inches that protects 95% of the children ages 4.5- 5.5.

National studies completed for the U.S. Consumer Protection Safety Commission have demonstrated that spacing of horizontal and vertical members on fencing construction improves the protection and reduces the accessibility of the pool to small children. For instance, a standard chain link fence provides a ladder type condition for small children's feet to fit into the fence weave. Other types of fencing with spacing of horizontal members, such as with wrought iron or wood fences with horizontal spacing close together, makes it easier for children to use these horizontal members as a ladder and climb over the fence.

Studies have demonstrated that openings 6 inches in width allow 95% of the children age 9 and under to pass through. Also, gates that do not lock or do not provide a raised height latch afford easy access for small children. Both of these issues have been factors in incidents in Washington State: at least 3 of the submersions reported in the past few years had enough information provided to demonstrate the inadequacy of the barrier opening size as a factor of the injury:

- A 2-year-old child was playing ball with his mother at an apartment area outside a fenced pool when their beach ball got tossed over the fence into the swimming pool area, which was supposed to require a key to enter. The mother went upstairs to get the key and came back to find the child in the bottom of the pool. (The child spent two days in hospital and completely recovered.) The child had gained entry to the pool entry because the latch to the area was not properly latching closed; the owner of the facility had been written up for correction by local health department a week before the near drowning because of the improperly functioning latch.

- Within a year of the 1990 pool regulations being passed, one of the members on our committee reported an incident of a 3-year-old child who was found in their pool area unattended. The pool was built many years before the 1990 regulations were passed and hence was grandfathered with six-inch wide openings for barriers. The committee member indicated that they were replacing the fence with one with four-inch wide openings.

- A three-year-old child was reported by a local health jurisdiction as a near drowning in a spa pool that had a fence with six-inch openings. (The child made a complete recovery.) The child entered through the fence openings.

Costs of the Rule Change

The costs of meeting the new barrier requirements are different since the requirements are determined by the date the facility was built.

There will be only minimal costs associated with the new requirements for new facilities and facilities undergoing remodeling.

Existing facilities that currently meet the 1990 standards need to raise the latch height to 60 inches or establish an 18-inch radius of solid material around the latch. A conservative estimate of the cost of materials is $150, with a similar cost for labor. A conservative estimate of total cost is therefore $300.

Facilities that were grandfathered for the 1990 standards will incur the greatest costs associated with this rule change. Although we (conservatively) considered the costs associated with modifying or rebuilding their barriers by 2008, it is worth noting that in 2008 such facilities will have had their barriers in existence for at least 18 years, and therefore that the true impact of the rule is simply to speed the construction of a new barrier.

In some cases, facilities will only need to modify their barriers to meet the new requirements. For example, facilities with improper openings for control of horizontal and vertical members will have to modify barriers to prevent accessibility, e.g., by using slats to fill in openings in chain link fences.

In other cases, facilities will probably need to install a new barrier. Cost estimates for facilities located in Seattle (the highest-cost area in the state) range from $2,000 to $5,000 for a small 20’ x 30’ pool with a perimeter of 120 feet; from $4,000 to $10,000 for a larger 30’ x 50’ pool with a perimeter of 202 feet; and from $7,500 to $17,000 for a large municipal-type pool with a perimeter of 400 feet. These costs include labor and materials; in each case, the lower number in the range is for solid wood fencing, the higher number for ornamental iron fencing.

The table below estimates total costs:

County	Pools needing new fences; estimated cost: $7,500	Pools needing to upgrade fences; estimated cost: $300	Total cost
King	100	300	$840,000
Pierce	7	80	$76,500
Clark	30	7	$227,100
Spokane	16	35	$130,500
Snohomish	4	7	$32,100
Benton/Franklin	40	45	$313,500
Other	36	80	$294,000
Total	233	554	$1,913,700

Conclusion

We have conservatively estimated costs to be no more than $2 million in one-time costs. Using the EPA figure of $6 million for the value of a statistical life (VSL), it follows that a sufficient condition for passing a cost-benefit test is for the proposed rule to save an estimated one life in the next 20 years. Since the barriers rule is likely to accomplish this, it follows that the benefits of the proposed change exceed the costs.

It is worth noting (as in the lifeguarding analysis) that we have erred on the side of caution with both costs and benefits. On the cost side, for example, we have not included the lower costs that are likely to be incurred by facilities with chain-link fences. On the benefits side, we have not included the benefits of reducing near-drownings.

Construction Permit (WAC 246-260-021)

The following rule change applies to all water recreation pool facilities.

3. Innovative Designs (WAC 246-260-021(4))

This new subsection allows pool owners to gain design approval for features not considered by this chapter if they meet public health and safety criteria. This adds flexibility to the regulations and potentially reduces time and money costs for pool owners, who under the existing rules would have to apply for a variance. There are no costs associated with this rule change.

General Design, Construction, and Equipment for All WRF Pool Facilities (WAC 246-260-031)

The following rule changes apply to new pools and major renovations of existing pools.

4. Design and Construction—Main Drains (formerly WAC 246-260-090, 110, 130, & 150, now WAC 246-260-031(8)(e))

The new rules incorporate two changes relating to main drains that will reduce the potential for entrapment and drowning. Both changes have minor costs that are outweighed by the qualitative benefits of safety enhancement.

The first change requires that main drains be designed in such a way to prevent a single drain from becoming a sole source of pump suction. This requirement is unlikely to increase construction costs; it simply requires manifold drains that will that will provide this protection.

The second change requires pipe velocity not exceed 6 feet per second (fps). This will require the pipe that leads from the main drain suction line to each individual drain be of the same size. This will create a minor cost estimated to be of $5-20 for a six feet piece of larger pipe on the majority of the pools.

5. Design and Construction—Skimmer Line Drain Grate Protection (formerly WAC 246-260-090, 110, 130, & 150, now WAC 246-260-031(8)(d))

The new rule requires skimmer equalizer lines to have drain grate protection over them to prevent against hair entrapment. (Drownings have occurred in other states as a result of hair entrapment.) These qualitative safety benefits are likely to exceed the cost of anti-hair-entrapment drains, which range in price from $0 to $10 a piece. A typical facility is likely to need two such devices.

6. Design and Construction—Skimmer Range (formerly WAC 246-260-090, 110, 130, & 150, now WAC 246-260-031(8)(d))

The new rule modifies skimmer range requirements. Benefits are improved flexibility for the design, improved options for contractors, and lower costs; the new rule should also allow skimmers to be more appropriately sized. Finally, the new rule should save time and money by providing an alternative to the variance process. There are no significant costs to offset these benefits.

7. Design and Construction of Spa Pools—Equipment Rooms (formerly WAC 246-260-110, now WAC 246-260-031(14))

The new rule establishes uniformity by eliminating a 46 square foot equipment room requirement for spa pools over 10,000 gallons and by requiring new spa pools of under

10,000 gallons to have a locked equipment room with three-foot access for maintenance. They were exempted from this requirement under the existing rule, which applied to other types of water recreation facilities and to spa pools of over 10,000 gallons. However, the new rule continues to exempt those serving fewer than 15 units, as identified in WAC 246-260-061.

The benefits of this rule change are (1) ensuring that there is sufficient access to equipment for operations and maintenance, and (2) maintaining consistency among regulations for different types of water recreation facilities. The potential costs associated with this rule arise in the case of a spa pool owner who did not intend to build an equipment room (e.g., who intended to put the spa equipment underneath the spa). The potential costs in such a case would be approximately $600 in labor and materials, but the potential owner could also apply for a variance if they believed that they could ensure adequate access through other means. This flexibility and the potential for cost reductions for larger spa pools help ensure that the likely benefits of this rule change outweigh the likely costs.

8. Design and Construction—Ton Chlorine Cylinders (formerly WAC 246-260-090, 110, 130, & 150, now WAC 246-260-031(17)(h))

The new rule will not allow the use of ton chlorine cylinders at swimming pools. This provides safety benefits, as chlorine inhalation can cause death. The benefit of prohibiting ton chlorine cylinders is that there will no longer be the potential for inhalation of chlorine gas, which can cause death. The benefit exceeds the probable costs of this rule change because it is likely that there will be no costs. The department is aware of only one facility in the state that currently uses ton cylinders, and there have been no design submittals for new ton cylinders since a previous version of these rules was passed in 1990.

9. Design and Construction—Lockers (formerly WAC 246-260-090, 110, 130, & 150, now WAC 246-260-031(20)(a)(v))

The new rule requires that lockers, when provided by the facility, have anchoring to prevent them from tipping. This requirement was added in response to an injury sustained by an individual using a public facility in Eastern Washington; anchoring prevents lockers from becoming a falling hazard.

The cost of anchoring lockers is estimated to be $250 in parts and labor on average. These cost are justified by the qualitative benefits generated by the rule.

10. Design and Construction—Self-Closing Faucets (formerly WAC 246-260-090, 110, 130, & 150, now WAC 246-260-031(21)(f)(iv))

If self-closing faucets are used at a facility, they are required to have a minimum "on" duration of 10 seconds. This requirement will not increase the purchase or installation costs of such faucets, which range in price from $180 to $250. The effect on operating costs will be minimal and is outweighed by the public health benefit of ensuring that patrons have sufficient time to wash their hands. Similar minimum-duration requirements can be found in school regulations (WAC 246-366-060(d)) and in the food code (WAC 246-215-120(11)).

11. Design and Construction—Showers (formerly WAC 246-260-090, 110, 130, & 150, now WAC 246-260-031(21)(g)(4))

The new rule increases the minimum range for shower temperatures, making it the same range as in other regulations including regulations for schools food service establishments. This change will allow a 10-degree greater tolerance. This should not create any health or safety issues, so there are no costs to oppose the benefits of more flexibility and consistency with other regulations.

12. Design and Construction—Diaper Changing Stations (formerly WAC 246-260-090, 110, 130, & 150, now WAC 246-260-031(22))

The new rule requires facilities to provide diaper-changing stations. Patrons with small children will have a place to change diapers other than the pool deck. This provides public health benefits by reducing the risk of waste washing off the deck into the pool and encouraging proper disposal of wastes.

This rule change imposes no costs on facilities that already have a diaper-changing station. Facilities that would be required to install such stations as a result of the rule would bear costs of approximately $500 for parts and labor. These costs are justified by the qualitative public health benefits generated by the rule.

13. Design and Construction—Lighting (formerly WAC 246-260-090, 110, 130, & 150, now WAC 246-260-031(23))

The new rule modifies lighting requirements in two ways in order to conform with IESNA (Illuminating Engineering Society of North America) specifications. On the pool deck of indoor pools, the lighting requirement will be reduced from 30 foot-candles to 10 foot-candles. On the pool deck of outdoor pools, the lighting requirement will be reduced from 15 foot-candles to 10 foot-candles. In the pool area of indoor pools, the required lighting value remains the same but will be measured at the pool floor rather than 30 inches above the floor. This will require some additional lighting for the pool surface area, but the net effect of these changes will be to reduce the total lighting requirement for facilities.

Swimming Pool Design, Construction, and Equipment (WAC 246-260-041)

The following rule changes apply to new swimming pools and major renovations of existing swimming pools.

14. Design and Construction—Diving Boards (formerly WAC 246-260-090, now WAC 246-260-041(6)(a)(iv))

The existing rule requires diving boards at a height of 1 meter or more to have a 42-inch high guardrail. The new rule makes two changes: it eliminates the specific height requirement, and it adds a requirement for an intermediate rail to help prevent persons from falling through the area below the guardrail. These changes will align department rules so as to best protect users of diving boards. Although adding an intermediate rail will cost an estimated $300, eliminating the specific height requirement will save an estimated $2000. (Diving boards come with standard handrails that are 36 inches in height; the 42-inch requirement necessitated costly modifications and reduced safety protection.) The rule change therefore provides a net savings of $1700 in addition to improved safety.

15. Design and Construction of Swimming Pools—Starting Blocks (formerly WAC 246-260-090, now WAC 246-260-041(6)(b)(ii))

The existing rule requires that starting blocks be removed when on the shallow end of the pool and not used by persons properly trained in their use. The new rule make two changes regarding starting blocks. First, it provides the option of covering starting blocks instead of removing them. (Safety covers cost $80-$100 apiece.) This rule change provides the benefit of flexibility; there are no costs because pool owners can continue to remove starting blocks in accordance with the existing rule.

The second change in the new rule is that it defines 9 feet to be the minimum depth for the placement of starting blocks without protection. This definition clarifies the rule and acts to protect public safety. While the injuries associated with starting blocks are infrequent, the consequences can be severe, resulting in head neck and back injuries.

16. Design and Construction of Swimming Pools—Transitional Slope (formerly WAC 246-260-090, now WAC 246-260-041(8) and (9))

The new rule will eliminate the transitional slope requirement between shallow and steep slopes. This change was recommended by the Task Force and will reduce costs for pool construction.

Swimming Pool Design, Construction, and Equipment (WAC 246-260-041), and Spa Pool Design, Construction, and Equipment (WAC 246-260-051)

The following rule change applies to all swimming pools and spa pools.

17. Design and Construction—Emergency Phone (formerly WAC 246-260-090 and 246-260-110, now WAC 246-260-041(11)(c))

The existing rule allows limited use swimming pool and spa pool facilities to have one of three options at their facilities for obtaining emergency response: 1) a phone within one minute access; 2) an emergency alarm that will provide access to emergency response service; 3) or an audible alarm that will let people in the area know of an emergency at the pool. The new rule will eliminate the second and third options, i.e., will only allow use of a phone with one minute access to the pool.

The benefit of the rule change is that phone calls provide the highest level of EMS response (Advanced Life Support) to the scene. Experience in Pierce County strongly suggests that audible alarms are ineffective: when such systems were tested, pool employees uniformly failed to contact emergency responders. (As a result, no pools in Pierce County currently use audible alarms.) Emergency alarms are also inferior to phone calls: emergency alarms *do* notify emergency responders, but they do not indicate the nature of the emergency; as a result, the emergency responders may not be the most qualified to deal with the emergency at hand. Phone calls, in contrast, allow for necessary communication between individuals at the pool and emergency responders.

The cost of a dedicated phone line is approximately $10-$22 per month; owners can block long distance calls to ensure that no additional charges accrue. Other phone options include phones that are placed in lock boxes like fire extinguishers and emergency phones that can be used for emergency calls only. (These cost about $80 with a $10/mo fee.) These phone line costs are likely to be *less* than the costs of an emergency alarm as suggested during a conversation with Capitol Alarm Inc of Olympia and is evident in Pierce County, where there are no pool operators who have opted for the emergency alarm.

Because a dedicated phone line provides greater public safety benefits than an emergency alarm and costs less to pool operators, eliminating the emergency alarm option imposes no additional costs for designers of new pools. Operators of existing pools with emergency alarms will face some switching costs, but the public safety benefits outweigh these costs. The same is true for audible alarms. Eliminating the audible alarm option may impose costs on pool operators for installing dedicated phone lines, but the costs are outweighed by the public health benefits of having an emergency response system that actually works.

Spa Pool Design, Construction, and Equipment (WAC 246-260-051), and Special Design and Construction Provisions for Hotels and Motels (Transient Accommodations) Serving Fewer than Fifteen Living Units and for Spas in Individual Hotel/Motel Rooms (WAC 246-260-061)

The following rule changes apply to new spa pools and major renovations of existing spa pools.

18. Design and Construction of Spa Pools—Perimeter Requirements (formerly WAC 246-260-110, now WAC 246-260-051(1) and 246-260-061)

The existing code has various conditions for perimeter requirements, including a 6 by 7 foot area. The new code has been simplified to require 50% of the spa to have four feet of deck surrounding it except if the spa is greater than 100 square feet, in which case it must have four feet of deck around the entire perimeter. Although this tightens requirements in some cases, the additional costs are unlikely to be significant, and are outweighed by the benefits of clarity in the rule and reductions in requirements for many spas.

19. Design and Construction of Spa Pools—Decking (formerly WAC 246-260-110, now WAC 246-260-051(1) and 246-260-061)

The existing code requires varying thickness of decking when the spa is raised more than 12 inches above deck level. The new rule removes this requirement—thereby providing more flexibility and reducing costs. The new rule requires that spa decking meet building code requirements when 30 inches or more above the floor. This provides clarity, as owners must already conform with the building code, without imposing additional costs.

20. Design and Construction of Spa Pools—Setback from Raised Structures (formerly WAC 246-260-110, now WAC 246-260-051 and 246-260-061)

The existing code required maintaining a minimum 15-foot setback from raised structures (second floor balconies, low accessible roofs, etc.). The new rule loosens regulations and reduces potential costs by eliminating this requirement for spa pools. It is not likely that there will be significant reductions in public health protection as a result of this rule change.

21. Design and Construction of Spa Pools—At Transient Accommodation Facilities (formerly WAC 246-260-110, now WAC 246-260-061)

Under the new rules, spa pools provided at transient accommodation facilities serving fewer than 15 units (hotels, motels, bed & breakfasts) will be exempted from several of the requirements in the rule. Since these facilities are currently required to comply with

all rule requirements, this change provides flexibility to the regulations and lowers compliance and enforcement costs.

22. Design and Construction of Spa Pools—In Individual Rooms of Hotels, etc. (formerly WAC 246-260-110, now WAC 246-260-061)

Under the new rules, spa pools in individual rooms that are not cleaned and refilled between uses at hotels/motels/B&B's will be exempted from several of the requirements in the rule. They will continue to meet requirements relating to barriers, disinfection equipment, and water quality for disinfection and pH. Since these facilities are currently required to comply with all rule requirements, this change relaxes regulations and potentially lowers costs. It is not likely that there will be significant reductions in public health protection as a result of this rule change.

Wading Pool Design, Construction, and Equipment (WAC 246-260-071)

The following rule changes apply to new wading pools and major renovations of existing wading pools.

23. Design and Construction of Wading Pools (formerly WAC 246-260-130, now WAC 246-260-071)

The existing code required maintaining a minimum 15-foot setback from raised structures (second floor balconies, low accessible roofs, etc.). The new rule loosens regulations and reduces potential costs by eliminating this requirement for wading pools. It is not likely that there will be significant reductions in public health protection as a result of this rule change.

Spray Pool Design, Construction, and Equipment (WAC 246-260-081)

The following rule changes apply to new spray pools and major renovations of existing spray pools.

24. Design and Construction of Recirculating Spray Pools (formerly WAC 246-260-150, now WAC 246-260-081)

Existing regulations allow for recirculating spray pools only when combined with a swimming pool of at least 30,000 gallons. The new rule provides alternatives for potential pool owners to have recirculating spray pools without a swimming pool, thereby creating flexibility and potentially lowering costs and/or expanding benefits. There are no additional costs because this revision provides options for pool owners.

25. Design and Construction of Spray Pools—Maximum Velocity (formerly WAC 246-260-150, now WAC 246-260-081(3))

The existing regulation establishes a maximum velocity of 15 feet per second (fps) across the nozzle as a safe design. Engineers have demonstrated that the fps is not the critical condition. Many spray features far exceed this rate but do not create any problems with damage due to the size of the spray, and some spray features can cause harm even though their velocity is less than 15 fps. The new rule evaluates the total force produced by a spray feature and uses an outcome-based standard: spray features cannot inflict physical damage to bathers. These rules will minimize costs while protecting public health.

26. Design and Construction of Recirculating Spray Pools—Bathrooms, etc. (formerly WAC 246-260-150, now WAC 246-260-081 and 246-260-031)

Existing regulations allow for recirculating spray pools only when combined with a swimming pool of at least 30,000 gallons; such swimming pools are and have been required to have restroom facilities. The new rules provide for stand alone recirculating spray pools, so this code change ensures these stand alone spray pools will still provide toilets, sinks, diaper changing stations, and, in some instances, locker rooms. These types of facilities provide public health benefits by ensuring that human wastes are disposed of properly and do not contaminate the recirculating water in the pool. This rule change provides flexibility and does not impose additional costs. Note also that non-recirculating spray pools are not subject to this requirement.

27. Design and Construction of Spray Pools—Walkway (formerly WAC 246-260-150, now WAC 246-260-081(1))

The existing code has a minimum four-foot walkway around 50% of the perimeter of the spray pool feature. Experience shows, however, that spray pools without walkways around the entire perimeter have problems with water splashing beyond the perimeter; in particular, grassy areas immediately adjacent to spray pools become mud puddles, which pose a number of public health risks, including those relating to slipping, mosquitoes, unsanitary conditions, and water quality. To correct this problem, the new rule requires a minimum four-foot walkway around the entire perimeter of the spray pool feature. This ensures that there will be an impervious non-slip surface around the entire perimeter of a spray pool feature.

The costs of this rule depend on the characteristics of the spray pool. At most, an owner would need to add a four-foot walkway around 50% of the spray pool. Working with a 25-foot diameter spray area, this would require approximately 180 square feet of additional decking; a conservative estimate of costs in this case is $1,000; such costs are likely to be exceeded by the qualitative benefits of the rule.

Swimming Pool Design, Construction, and Equipment (WAC 246-260-041(11)(g)), and Wading Pool Design, Construction, and Equipment (WAC 246-260-071(7)), and Spray Pool Design, Construction, and Equipment (WAC 246-260-081(4))

The following rule changes apply to existing swim pools, wading pools, and recirculating spray pools.

28. Emergency equipment requirements for new and existing swimming pools (WAC 246-260-041(11)(g)), wading pools (WAC 246-260-071(7)), and recirculating spray pools (WAC 246-260-081(4)).

This rule change will require installation of an emergency shut-off switch and audible alarm for all single main drain swimming pools, wading pools, and recirculating spray pools. The intent is to reduce the hazard of suction entrapment potential at these single main drain pools. The department will develop guidance for alternatives to the emergency shut-off switch, for owners to consider. The emergency shut-off switch and audible alarm is an existing requirement for all spa pools. When the requirement was established in the early 1990s, the average cost for installation of the emergency shutoff switch and alarm was approximately $400. Of the different alternatives for providing safety relief for single main drain pools, the emergency shut-off switch is considered the least costly alternative, but there are other options that offer enhanced protection, such as a second main drain; owners may opt for these in lieu of the emergency shut-off switch.

The benefits of the proposed rule are reduced risk of suction entrapment. According to the Consumer Product Safety Commission (as quoted in Pool and Spa News, 10/24/2003), there were 147 confirmed incidents of suction entrapment nationwide between 1985 and 2002, 36 of which resulted in death. These numbers, which are likely to be significant underestimates of true incidence, suggest that suction entrapment will cause one death in Washington State at least once every 25 years.

DOH estimates that this rule will affect 2,000 pools, imposing a total one-time cost of $800,000. Using the EPA figure of $6 million for the value of a statistical life (VSL), it follows that a sufficient condition for passing a cost-benefit test is for the proposed rule to save an estimated one life in the next 40 years. Since this rule change is likely to accomplish this, it follows that the benefits of the proposed change exceed the costs.

Specialty Design Features (WAC 246-260-091)

The following rule change applies to all water recreation facilities.

29. Specialty Design Features (WAC 246-260-091)

The new rule makes provisions for installing waterfalls, benches, rockeries, plantings, special use pools, play-toys, and ballet rails in pools. Under existing rules potential owners would need to use the variance process; the new rules provide flexibility and potential savings of time and money.

Water Quality Standards, Analysis, and Sample Collection (WAC 246-260-111)

The following rule changes apply to all water recreation facilities.

30. Water Quality—Ozone and Copper Silver (formerly WAC 246-260-070, now WAC 246-260-111(3)).

The existing rule refers to guidance documents that govern the use of ozone and copper silver as adjunct disinfectants. The new rule incorporates key portions of these guidance documents into the rule itself.

The benefit of this rule is that it provides flexibility to pool operators who wish to use these alternative disinfectants while still maintaining public health protections. Because these disinfectants can impact public health—for example, exposure to excessive levels of ozone can permanently reduce lung capacity—the department has and will continue to follow standards of 0.05 ppm for ozone, 1.0 ppm for copper, and 0.05 ppm for silver ions.

The costs of the new rule are minimal. Facilities using alternative disinfectants have been meeting the criteria described in the guidance document for the past 12 years, therefore, they will not incur any costs as a result of the new rule. Currently, there are only six facilities using copper silver as adjunct disinfectants. New facilities will benefit from having flexibility to use ozone or copper silver as adjunct disinfectants. However, the department feels that it is unlikely that new facilities will use copper silver as there have been no new applications in the past 5 years.

31. Water Quality—Minimum and Maximum Disinfectant Levels (formerly WAC 246-260-070, now WAC 246-260-111(3)).

The minimum and maximum disinfectant levels in Table 1 have been changed and simplified. Benefits accrue from the simplification of the table, which make it easier for pool operators to follow the requirements, and from aligning minimum and maximum disinfectant levels with public health requirements. Costs are minimal because the applicators can be easily adjusted meet the new required disinfectant levels.

32. Water Quality—Testing Equipment (formerly WAC 246-260-070, now WAC 246-260-111(6)(c)).

Table 3 establishes ranges for testing equipment that more accurately reflects the ranges of most field test kits and establishes minimum accuracy levels from testing industry recommendations. The benefit of this rule change is to ensure that testing equipment properly measures levels of chlorine, bromine, and other water quality aspects that impact public health.

The costs of this rule change are minimal for three reasons. First, many facilities will have testing equipment that meets the new standards. Second, testing equipment that doesn't meet the new standard probably doesn't meet the existing standards either. Finally, testing equipment needs to be replaced approximately every three years, therefore, the new rule requires front-loading the cost of a kit (at most $200) by three years. Using a 5% discount rate to account for the time value of money, the present value of this front-loading is about $27, meaning that a payment of $27 would be sufficient compensation for having to spend $200 three years earlier than anticipated.

33. Water Quality—And Air Quality (formerly WAC 246-260-070, now WAC 246-260-111(8)).

The current rule allows local health officers to require water quality tests. The new rule clarifies that local health jurisdictions may also require pool owners to perform air quality tests as well as water quality tests. This requirement was motivated by indoor air quality problems at some of the larger new facilities in the state.

It is not clear that this rule change is significant: the existing rule (see WAC 246-260-070(8)) or other state rules may already give local health jurisdictions the authority to require air quality tests. However, assuming that the rule change is significant, it will only affect a few facilities that have potential air quality problems. In these cases, the qualitative benefits in protecting public health outweigh the costs of the testing requirements.

Water Recreation Facility Pools Not in Operation (WAC 246-260-141)

The following rule changes apply to all water recreation facilities.

34. Operation of Water Recreation Facilities—Not in Operation (formerly WAC 246-260-100, -120, -140, and -160, now WAC 246-260-141(2))

The existing rule requires that facilities are locked when not in operation. This created problems for facilities containing both a swimming pool closed for a season and a spa remaining open for the entire year. In many facilities it is not possible to lock the

swimming pool and still allow access to the spa pool in the same enclosed area, thus, the current rules do not allow the use of the spa. The new rule provides two alternatives and provides added flexibility without increasing costs.

The first alternative is the use of safety covers for facilities not in operation. This will allow for the use of a spa pool year round while still providing protection for the swimming pool in the same enclosure area. A typical safety covers run approximately $1-$1.50 per square foot of pool area. The second option is to maintain water quality in the unused pool in conformance with all requirements except those relating to temperature. This will ensure that the water will be clear enough to locate a drowning person.

35. Operation of Water Recreation Facilities—Abandoned (formerly WAC 246-260-100, -120, -140, and -160, now WAC 246-260-141(5))

The existing rule requires abandoned pools to be filled in. The new rule does two things. First, it allows for the use of safety covers as an alternative to filling an abandoned pool; this adds flexibility to the rule and potentially lowers costs. Second, the new rule defines the time period required to classify a pool as abandoned as one year. Such classifications are currently made by local health officers, many of whom use one year or less as the defining criterion. Compared to the existing rule, then, the new definition is unlikely to increase overall compliance costs.

Variance (WAC 246-260-201)

The following rule change applies to all water recreation facilities.

36. Operation of Water Recreation Facilities—Variances (formerly WAC 246-260-100, -120, -140, and -160, now WAC 246-260-131)

Under the existing rules, variances must be approved by both the local health jurisdiction (LHJ) and by DOH. The new rule requires operators to get a variance only from the agency handling the issue under consideration, e.g., construction variances will go through DOH while operating variances will go through the LHJ. This reduces the time and money costs associated with variances.

Enforcement (WAC 246-260-201)

The following rule change applies to all water recreation facilities.

37. Operation of Water Recreation Facilities—Enforcement (formerly WAC 246-260-100, -120, -140, and -160, now WAC 246-260-201(1)(c))

The enforcement section of the rule has been consolidated and reorganized. The only significant change is that mandatory training will be listed as an enforcement option when noncompliance occurs. Training classes such as the Certified Pool Operator Class provide typically two days of training for approximately $300. State-run pool operator training classes cost approximately $60. Man local health officers already have this option under existing rules, so the rule change simply provides clarity. Local health officers have the authority to close facilities for noncompliance, therefore, a provision for mandatory training establishes less-costly alternatives to closure.

D. Determine, after considering alternative versions of the rule, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives stated previously.

DOH staff worked closely with constituents and the public to minimize the burden of this rule. For example, a task force representing various constituencies of the pool industry was involved in the development of these rules; the input from this task force was instrumental in the final development of this regulation. In addition, a series of public workshops was held throughout the state to obtain public input; several changes were made as a result of these meetings.

In the course of these and other efforts, the following alternative version(s) of the rule were rejected:

On lifeguarding:

Early drafts considered requiring lifeguarding for pools used by persons under the age of 18; this was changed to persons 16 and under. Some of earlier drafts also had lifeguard requirements for adults when teaching basic swimming instruction. The proposed rule is less burdensome for those required to comply with it because it reduces the cutoff age to 16, which reduces the need for lifeguards, and eliminates the lifeguard requirement for adults. The proposed rule also allows attendants rather than lifeguards to oversee bathers in water less than five feet in depth. In addition, an attendant or shallow water lifeguard is allowed to supervise an entire pool population if the depth of the entire pool is less than 4.5 feet in depth.

On emergency shut-off switches:

The original proposal was to require pools with only one main drain to install a second main drain to reduce the risk of entrapment. Although the problem of one main drain was generally recognized, the cost of installing second main drains led to requests for the department to consider alternatives. The proposed rule, which allows for the use of emergency shut-off switches, will be less burdensome for pool owners and operators.

E. Determine that the rule does not require those to whom it applies to take an action that violates requirements of another federal or state law.

The rule does not require those to whom it applies to take an action that violates requirements of federal or state law.

F. Determine that the rule does not impose more stringent performance requirements on private entities than on public entities unless required to do so by federal or state law.

The rule does not impose more stringent performance requirements on private entities than on public entities. In general, most of the requirements are most stringent for the larger municipally owned pool facilities with continuous supervision of these facilities. In most cases, the smaller privately owned pool facilities have reduced requirements relating to supervision, barriers, etc.

G. Determine if the rule differs from any federal regulation or statute applicable to the same activity or subject matter and, if so, determine that the difference is justified by an explicit state statute or by substantial evidence that the difference is necessary.

The rule does not differ from any applicable federal regulation or statute.

H. Demonstrate that the rule has been coordinated, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter.

In writing the rules, effort has been made to avoid duplicating rules established by other agencies, except where both needs are addressed with a common rule, such as with building code rules.